Remarks

The Office Action mailed September 22, 2004 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 40-57 are now pending in this application, of which claims 40, 46, 53 and 54-57 have been amended. It is respectfully submitted that the pending claims define allowable subject matter.

The specification has been amended to include the patent number of the parent case.

The rejection of claims 40-45, 46-52 and 55-57 under the judicial grounds of obviousness type double patenting as being unpatentable over claims 1-38 of U.S. Patent No. 9,696,969 is respectfully traversed.

The amendments to independent claims 40, 46 and 55-57 are believed to render the double patenting rejection moot. Differences between the presently pending claims and the issued claims of U.S. Patent No. 9,696,969 are believed to be self-evident, and the claims are submitted to be patentably distinguishable over the claims of U.S. Patent No. 9,696,969. Applicants will submit, if necessary, a terminal disclaimer in the present case if the Office maintains the double patenting rejection and if allowable subject matter is indicated.

The rejection of claim 54 under 35 U.S.C. § 112, second paragraph, is respectfully traversed. Claim 54 has been amended to overcome the noted issue in the Office Action. Applicants accordingly request withdrawal of the Section 112 rejection.

The rejection of claims 40, 42, 46, 48-50, 52 and 56 under 35 U.S.C. § 103(a) as being unpatentable over Douglass (U.S. Patent No. 5,841,337) in view of Happ et al. (U.S. Patent No. 5,569,662) is respectfully traversed.

Douglass describes a safety fuse system including a fuse module (100) and a fuse holder (102). The fuse module (100) includes a pair of fuse blades (118) and a short circuit interruption element (154) having a folded configuration and an overload current interruption mechanism (156) extending between the fuse blades (118). A blown fuse indicator (104) is provided including a main body (163) secured to the fuse module (100) so that the main body (163) projects toward the short circuit interruption element (154). A heat sensitive material (161) is coupled to a bottom end of the main body (163) and is exposed to a temperature sufficient to change the color thereof should the fuse element (154) overheat. The main body (163) acts as a light tube and enables visual inspection of the heat sensitive material (161) from the outside of the fuse module (100). Douglas col. 3, lines 1-7 and 35-36; col. 4, lines 27-41; col. 6, lines 6-50 and Figures 4, 7, and 8.

Notably, the blown fuse indicator (104) described by Douglass is neither mechanically nor electrically connected with either of the fuse blades (118) which establish the line side and load side connections of the fuse module (100). As seen in Figure 8 of Douglass, the fuse blades (118) are physically separated and located at a distance from the blown fuse indicator (104). The blown fuse indicator (104) is activated solely by heat generated in the fuse element (154), and due to the separation of the fuse blades (118) and the blown fuse indicator (104), activation of the fuse indicator is separate and apart from any heating of the fuse blades (118) in operation.

Additionally, Douglass does not describe an alarm feature or output in communication with the blown fuse indicator (104), and because the blown fuse indicator (104) is not electrically connected to any of the conductive components of the fuse module (100), the fuse module (100) is not conducive to providing an alarm signal when the fuse element (154) has operated to interrupt electrical connection through the fuse module (100).

Happ et al. describe a fused disconnect switch including a base unit (30) and a removable fuse holder (10) insertable into base unit (30). Fuse holder (10) includes fuseclips (34) and (42) for holding a cylindrical fuse (14) in place and conducting current therethrough. Fuse clip (34) is integrally formed with a blade contact (26) which is received in a contact (38) in base unit (30), which is in turn coupled to a line contact (39) extending from the base unit (30) and connectable to a line side bus. Fuse clip (42) extends from the fuse holder (10) and forms a contact (24) that is received in a male connection piece (44) in base unit (40), which in turn extends to a load terminal (40) extending from the base unit (30). One of the fuse end caps (105) includes a spring loaded pin contact (45) to establish an electrical connection with a plate (103) to energize an LED (48) through a line-side connection to fuse clip (34) coupled to fuse cap (105) when fuse (14) opens. When the LED is energized, an alarm signal is sent out of base (30) through an alarm terminal output (50) integrated into base unit (30). Happ et al. col. 3, lines 51-66, col. 4, lines 16-21 and lines 36-64 and Figures 1, 3, and 4.

Notably, Happ et al. describe an indicating LED (48) in connection with only one fuse end cap (105). The LED is not in communication with the other end cap of the fuse. Rather, the LED is energized with a line side connection only to the fuse end cap (105) which facilitates an alarm signal output through the alarm terminal (50).

Claim 40 recites a fused disconnect switch comprising "a fuse configured to open an electrical circuit therethrough upon an occurrence of a predetermined current condition," "a switch housing assembly comprising a housing, said housing defining a fuse receptacle configured to receive said fuse, said housing having a first contact assembly and a second contact assembly establishing an electrical connection through said fuse when said fuse is received in said receptacle," "an open fuse indication device mechanically and electrically connected in parallel with said fuse, said open fuse indication device removable from said switch housing assembly when said fuse is removed from said fuse receptacle, and mechanically and electrically connected to each of said first contact

assembly and said second contact assembly of said switch housing when said fuse is inserted into said receptacle," and "an alarm terminal output in communication with said open fuse indication device when said open fuse indication device is inserted into said receptacle."

Douglass in view of Happ et al. neither describes nor suggests the present invention. In fact, neither of Douglass nor Happ et al. describe an open fuse indication device mechanically and electrically connected in parallel with a fuse, or an open fuse indication device mechanically and electrically connected to each of a first contact assembly and a contact assembly of a switch housing when a fuse is inserted into a switch housing receptacle as recited in claim 40. Rather, Douglass describes a blown fuse indicator which is physically separated from the fuse element and is neither mechanically nor electrically connected to the fuse element or to the line and load connections of the fuse holder (102), while Happ et al. describe a mechanical fuse state indicator attached to one end of a fuse. The Happ et al. indicator is not connected in parallel with the fuse, and is connected only to line side contacts (38), (39) of the Happ et al. device. Collectively, Douglass and Happ et al. fail to teach each recitation of claim 40, and the references fail to teach or suggest any desirability of connecting the open fuse indication device in parallel to the fuse and to each of line side and load side connections in a switch housing assembly as recited in claim 40.

Claim 40 is therefore submitted to be patentable over Douglass in view of Happ et al. Claim 42 depends from claim 40, and when the recitations of claim 42 are considered in combination with the recitations of claim 40, claim 42 is likewise submitted to be patentable over Douglass in view of Happ et al.

Claim 46 recites a fused disconnect switch assembly comprising "a pull out fuse assembly comprising a fuse having a primary fuse element therein, and an open fuse indication device mechanically coupled to and connected in parallel with said primary fuse

element," and "a switch housing assembly for receiving said pull out fuse assembly, said switch housing assembly comprising; a housing comprising a fuse receptacle dimensioned to receive said pull out fuse assembly; a first terminal contact assembly in communication with said fuse receptacle, said first terminal contact assembly establishing a line side electrical connection through said primary fuse element when said pull out fuse assembly is inserted into said fuse receptacle; a second terminal contact assembly in communication with said fuse receptacle, said second terminal contact assembly establishing a load side electrical connection through said primary fuse element when said pull out fuse assembly is inserted into said fuse receptacle, said open fuse indication device visible from an exterior of said switch housing assembly when said fuse assembly is connected to said fuse receptacle; and a remote output alarm terminal extending through said housing and communicating a signal from said open circuit indication device for remote indication of an open fuse condition; wherein when said pullout fuse assembly is removed from said fuse receptacle, each of said fuse and said open fuse indication device are removed from said receptacle and disconnected from said switch housing."

As noted above, Douglass in view of Happ et al. neither describe nor suggest a pull out fuse assembly comprising a fuse having a primary fuse element therein, and an open fuse indication device mechanically coupled to and connected in parallel with said primary fuse element as claim 46 recites. Rather, Douglass describes a blown fuse indicator which is mechanically and electrically isolated from the fuse element, and Happ et al. describe a mechanical fuse state indicator at one end of a fuse, and which is connected to only line side contacts of a fuseholder.

Claim 46 is therefore submitted to be patentable over Douglass in view of Happ et al. Claims 48, 50 and 52 depend from claim 46, and when the recitations of claims 48, 50 and 52 are considered in combination with the recitations of claim 46, claims 48, 50 and 52 are likewise submitted to be patentable over Douglass in view of Happ et al.

Claim 56 recites a fused disconnect switch assembly comprising "a switch housing assembly comprising a receptacle and a pair of switchable terminal contacts proximate said receptacle," "a pull out fuse comprising a pull out housing and a primary fuse element, said pull out housing removably insertable into said receptacle," and "a pull out open circuit indication device connected to said primary fuse element and coupled to said pull out housing, said pull out open circuit indication device connected to each of said switchable contacts when said fuse is inserted into said receptacle."

Douglass in view of Happ et al. neither describe nor suggest the switch assembly of claim 56. Neither of the cited references describe pull out open circuit indication device connected to each of first and second switchable contacts when a fuse is inserted into a receptacle of a switch housing as claim 56 recites. Rather, Douglass describes a blown fuse indicator which is mechanically and electrically isolated from the fuse element and which never is connected to line and load connections of a fuseholder, and Happ et al. describe a mechanical fuse state indicator at one end of a fuse, and which is connected to only line side contacts of a fuseholder. Douglass in view of Happ collectively fail to teach this aspect of the invention, and suggest no desirability of providing the open circuit indication device recited in claim 56.

Claim 56 is therefore submitted to be patentable over Douglass in view of Happ et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of claims 40, 42, 46, 48-50, 52 and 56 as unpatentable over Douglass in view of Happ et al. be withdrawn.

The rejection of claims 41, 43-44, 47, 49, 51, and 53 under 35 U.S.C. § 103(a) as being unpatentable over Douglass in view of Happ et al., and further in view of Middlehurst et al. (U.S. Patent No. 6,317,311) is respectfully traversed.

Douglass in view of Happ et al. is described above, and for the reasons set forth above, Claim 40 is respectfully submitted to be patentable over Douglass in view of Happ et al.

Middlehurst et al. describe a pluggable circuit breaker mounting system including circuit breaker bus bar assemblies having housings mounted thereon and forming posts for pluggable circuit breakers.

It is respectfully submitted that Middlehurst et al. adds nothing to the combination of Douglass and Happ et al. with respect to the recitations of independent Claim 40. None of Douglass, Happ et al., or Middlehurst et al. describe an open fuse indication device mechanically and electrically connected in parallel with a fuse, or an open fuse indication device mechanically and electrically connected to each of a first contact assembly and a contact assembly of a switch housing when a fuse is inserted into a switch housing receptacle as recited in claim 40.

Claim 40 is therefore submitted to be patentable over Douglass in view of Happ et al. and further in view of Middlehurst et al. Claims 41 and 43-44 depend from claim 40, and when the recitations of claim 41 and 43-44 are considered in combination with the recitations of claim 40, claims 41 and 43 are likewise submitted to be patentable over Douglass in view of Happ et al. and further in view of Middlehurst et al.

Douglass in view of Happ et al. is described above, and for the reasons set forth above, Claim 46 is respectfully submitted to be patentable over Douglass in view of Happ et al.

Middlehurst et al. describe a pluggable circuit breaker mounting system including circuit breaker bus bar assemblies having housings mounted thereon and forming posts for pluggable circuit breakers.

It is respectfully submitted that Middlehurst et al. adds nothing to the combination of Douglass and Happ et al. with respect to the recitations of independent Claim 46. None of Douglass, Happ et al., or Middlehurst et al. describe or suggest a pull out fuse assembly comprising a fuse having a primary fuse element therein, and an open fuse indication device mechanically coupled to and connected in parallel with said primary fuse element as claim 46 recites.

Claim 46 is therefore submitted to be patentable over Douglass in view of Happ et al. and further in view of Middlehurst et al. Claims 47, 49 and 51 depend from claim 46, and when the recitations of claim 47, 49 and 51 are considered in combination with the recitations of claim 46, claims 47, 49 and 51 are likewise submitted to be patentable over Douglass in view of Happ et al. and further in view of Middlehurst et al.

Claim 53 recites a fused disconnect switch assembly comprising "a switch housing assembly comprising a housing defining a fuse receptacle, and at least a first terminal contact assembly comprising a bullet contact assembly for connection to external circuitry," and "a pull out fuse assembly comprising a housing configured for insertion into and removal from said fuse receptacle, a line side conducting portion, a load side conducting portion, and a fuse element extending between said line side conducting portion and said load side conducting portion; and an open fuse indication device connected between said line side conducting portion and said load side conducting portion and configured to visually indicate a state of said fuse element."

For the reasons set forth above, none of Douglass, Happ et al., or Middlehurst et al. describe or suggest an open fuse indication device connected between said line side conducting portion and said load side conducting portion and configured to visually indicate a state of said fuse element as claim 53 recites.

Claim 53 is therefore respectfully submitted to be patentable over Douglass in view of Happ et al. and further in view of Middlehurst et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of claims 41, 43-44, 47, 49, 51, and 53 be withdrawn.

The rejection of claims 55 and 57 under 35 U.S.C. § 103(a) as being unpatentable over Douglass in view of Middlehurst et al. (U.S. Patent No. 6,317,311) is respectfully traversed.

Claim 55 recites a fused disconnect switch assembly comprising "a pull out fuse assembly comprising a pair of opposed conductive elements, a fuse element extending between said opposed conductive elements, and an open fuse indicator connected in parallel with said fuse element," and "a switch housing assembly comprising a housing configured for receiving said fuse assembly and a pair of switchable terminal contacts therein for engaging said pair of conductive elements, wherein at least one of said terminal contacts comprises a bullet contact assembly."

Douglass does not describe or suggest an open fuse indicator connected in parallel with said fuse element, but rather describes a heat sensitive blown fuse indicator which is neither mechanically or electrically attached to the fuse element. Middlehurst et al. pluggable circuit breakers and not fuses or open fuse indication devices. Middlehurst et al. therefore fails to cure the deficiencies of the Douglass reference. Claim 55 is therefore submitted to be patentable over Douglass in view of Middlehurst et al.

Clam 57 recites a fused disconnect switch assembly comprising "a switch housing assembly comprising a receptacle and at least one bullet contact assembly," "a pull out fuse comprising a primary fuse element, said pull out fuse removably insertable into said receptacle," and "an open fuse indication device coupled to said pull out fuse and electrically connected in parallel with said primary fuse element, wherein when said pull out fuse is removed from said receptacle, said open fuse indication device is also removed from said receptacle."

For the reasons set forth above, Douglass in view of Middlehurst et al. neither describe nor suggest an open fuse indication device coupled to said pull out fuse and electrically connected in parallel with said primary fuse element, together with the other recitations of claim 57.

Claim 57 is therefore submitted to be patentable over Douglass in view of Middlehurst et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of claims 55 and 57 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

Bruce T. Atkins
Registration No. 43,476
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-507014